BIOGNOST®

BUFFER TABLETS pH 7.2

CE IVD *In vitro* diagnostic medical device Classified acc. to Regulation (EU) 2017/746 - **Class A** device

Phosphate buffer tablets for use in hematology and histology

INSTRUCTIONS FOR USE

Basic UDI-DI	385889212HPC3010302HMCA	
EMDN code	W0103010302	
REF **Catalog number**	**Quantity**	**UDI-DI**
PT-72-50	50 pieces	03858890004632
PT-72-100	100 pieces	03858888822545

Intended use and test principle

BioGnost's Buffer tablets contain a combination of acidic and alkaline phosphate salts and are used for the preparation of phosphate buffer solutions with stable pH, buffering capacity, and low temperature coefficients. Buffer tablets are easy to use and dissolve readily, after which the pH value is automatically adjusted to the desired value. In addition to general use in many histological and cytological procedures where buffer tablets are dissolved in distilled water, buffer tablets are also very commonly used in practical hematology in blood smear staining procedures. In this context, the buffer solution is essential for preparing diluted Giemsa/May-Gruenwald/Wright/Leishman solutions and for rinsing stained smears without decolorizing the stained cells.

Product description

- **BUFFER TABLETS pH 7.2 -** Tablets (50 or 100 pieces) for the preparation of phosphate buffer with pH value 7.2

Example of use of Buffer tablets pH 7.2 in the staining procedure with Giemsa / May-Gruenwald / Wright / Leishman solution

Additional reagents and materials that can be used in the method

- VitroGnost slides and coverslips for use in histopathology and cytology
- Immersion oils such as BioGnost's Immersion Oil, Immersion Oils types A, C, FF, 37, or Immersion Oil Tropical Grade
- Fixatives such as BioGnost's Histanol M
- Staining reagents for hematology such as BioGnost's solutions: Giemsa, May-Gruenwald, Wright, Wright-Giemsa, Leishman

Preparation of solutions

Preparation of buffer solution pH 7.2

Dissolve 1 buffer tablet pH 7.2 in 1 liter of distilled/demineralized water with stirring. Filter the solution. The buffer solution is stable for approximately 4 weeks if stored in a well-closed glass bottle.

Diluted Giemsa solution for manual staining

Dilute 10 mL of Giemsa solution with 190 mL of buffer solution, mix well, and leave for 10 minutes. Filter if necessary.

Staining procedure

Staining with Giemsa solution on a rack

- Fix air-dried blood smears by exposure to methanol (Histanol M) for 3-5 minutes
- Immerse the fixed smear in diluted Giemsa solution for 15-20 minutes
- Rinse the smear twice in buffer solution pH 7.2 for 1 minute
- Dry the smear

Staining with May-Gruenwald solution on a rack

- Immerse the air-dried smear in May-Gruenwald solution for 3 minutes
- Remove the preparation from the solution. Apply 1 mL of buffer solution pH 7.2 to the horizontally placed preparation and allow to act for 6 minutes
- Rinse the smear with buffer solution pH 7.2
- Dry the smear

Staining with Wright solution on a rack

- Immerse the air-dried smear in Wright solution for 1 minute
- Remove the preparation from the solution. Apply 1 mL of buffer solution pH 7.2 to the horizontally placed preparation and allow to act for 4 minutes
- Rinse the smear with buffer solution pH 7.2
- Dry the smear

Staining with Leishman solution on a rack

- Immerse the air-dried smear in Leishman solution for 1 minute.
- Remove the preparation from the solution. Apply 1 mL of buffer solution pH 7.2 to the horizontally placed preparation and allow to act for 5 minutes.
- Rinse the smear with buffer solution pH 7.2.
- Dry the smear

NOTE: The use of immersion oil is recommended during microscopic analysis of the stained preparation at magnifications greater than 40x.

Result (using buffer solution pH 7.2)

Cell type or part / staining result	*Giemsa solution*	*May-Gruenwald solution*	*Wright solution*	*Leishman solution*
Nucleus	violet	violet	blue-purple	violet
Lymphocyte cytoplasm	blue	blue	blue	light blue
Monocyte cytoplasm	gray-blue	gray-blue	gray-blue	gray-blue
Neutrophil granules	light red-purple	light red-purple	light purple	light red-purple to pink
Eosinophil granules	red-pink	red-pink	red to red-brown	red-pink to brown-red
Basophil granules	dark purple to black	dark blue-purple	dark purple to black	dark purple
Platelets	purple	purple	purple	reddish-purple
Erythrocytes	grayish-red	grayish-red	reddish-gray	reddish-gray

Limitations

This product is intended for professional laboratory use for diagnostic purposes only. Deviations from the staining procedure described in this Instructions for Use may cause differences in staining results.

Sample preparation and diagnostics

Use only appropriate instruments for collecting and preparing the samples. Process the samples using modern technology and mark them clearly. It is necessary to follow the manufacturer's instructions for use. To avoid errors, staining and diagnosis may only be performed by qualified personnel. Use a microscope that complies with medical diagnostic laboratory standards.

If a serious incident occurs during use or as a result of its use, please report it to the manufacturer and/or authorized representative and the competent authority.

Safety at work and environmental protection

Handle the product in accordance with occupational health and environmental protection guidelines. Used and expired solutions must be disposed of as special waste following national guidelines. Reagents used in this procedure can pose a danger to human health. The examined tissue samples are potentially infectious, therefore it is necessary to implement human health protection measures in accordance with good laboratory practice guidelines. It is mandatory to read and act according to the information and warning signs printed on the product label, instructions for use and in the safety data sheet, which is available on request.

Storage, stability, and shelf life

Upon receipt, store the product in a dry place and well-closed original packaging at a temperature of +15 °C to +25 °C. Do not freeze or expose to direct sunlight. After first opening, the product can be used until the specified expiry date, if stored properly. The production date and expiration date are printed on the product label.

References

1. Fritsch, E. F., Maniatis, T. et Sambrook, J. (1989): Molecular Cloning: A Laboratory Manual, 2nd ed., New York, Cold Spring Harbour Laboratory Press.
2. Ionatamishvili, T. V. et al. (1970): Tablets for adjusting and checking pH meters, *Measurement techniques,* 14 (2): pp. 310-312.
3. Robinson, R. A. et Stokes, R. A. (1968): Electrolyte solutions, 2nd ed., London, Butterworths.

Warnings and precautions regarding the materials contained in the product:
Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

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	Manufacturer	LOT	Batch code		Consult instructions for use	CE	European conformity
	Date of manufacture	REF	Catalogue number		Caution	UDI	Unique device identifier
	Use-by date	°C	Temperature limit	IVD	*In vitro* diagnostic medical device		

BioGnost Ltd.
Medjugorska 59, 10040 Zagreb, Croatia, EU, www.blognost.com

Version	Description / reason for change	Date
1	First version of the instructions for Buffer Tablets pH 7.2	08.04.2026.